CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

MONTHLY MANAGEMENT

MAY 2004

June 10, 2004

APPENDED TO EXECUTIVE OFFICER REPORT

CONTENTS

SIGNIFICANT NPDES
PERMITS, WDRS, AND RB ACTIONS

6/4/04 12:14 PM

DATE OF REPORT **JUNE 10, 2004** / NAME OF PERMIT/WDR/RB ACTION	ACTION TYPE	APPLICATION COMPLETE	DISCH./RWQ LIMITS KNOWN	Monitoring Req'tments and Plan	COMPL DRAFT	PUBLIC REV. & COMMENT	BOARD HEARING & ADOPTION	Consent Calendar Item	COMMENTS	Staff
AUGUST 11, 2004 RB MEETING										
AT RB OFFICE SAN DIEGO										
DUKE ENERGY SOUTH BAY POWER PLANT	NPDES Permit	100%	80%	80%	60%	0%	August 11, 2004	No	NPDES Workplan FY 2001-02	Indus. Unit
SAN DIEGO BAY	Renewal									
2004 TRIENNIAL REVIEW OF BASIN PLAN	Resolution	NA	NA	NA	100%	80%	August 11, 2004	No	Consider adoption of resolution	Ebsen
SEPTEMBER 9, 2004 RB MEETING										
AT RB OFFICE SAN DIEGO										
SO. CALIF. EDISON CO. SAN ONOFRE NUCLEAR	NPDES Permit	85%	80%	80%	20%	0%	September 8, 2004	No	NPDES Workplan FY 2004-05	Phillips
POWER STATION UNIT NOS. 1, 2, and 3	Renewal									
USMC CAMP PENDLTON--CEASE AND DESIST	Recission of CDO	NA	NA	NA	0%	0%	September 8, 2004	No		Cheng
ORDER SANTA MARGARITA RIVER										
BUDGET TRADE AND GAS / JIMMY HSU	Hearing: ACL	NA	NA	NA	0%	0%	September 8, 2004	No		Pease
ESCONDIDO										
OCTOBER 13, 2004 RB MEETING										
AT RANCHO CALF. WATER DISTRICT										
NATIONAL STEEL AND SHIPBUILDING CO.	Public Testimony	NA	NA	NA	0%	0%	October 13, 2004	No	Conduct hearing	Carlisle
SAN DIEGO BAY SEDIMENT CLEANUP	CAO									
SOUTHWEST MARINE SAN DIEGO BAY	Public Testimony	NA	NA	NA	0%	0%	October 13, 2004	No	Concuct hearing	Carlisle
SEDIMENT CLEANUP	CAO									
TOT. MAX. DAILY LOAD--SHELTER ISL. YACHT	Basin Plan	NA	100%	80%	0%	0%	October 13, 2004	No	Consider adoption of Basin Plan Amendmen	Dobalian
BASIN SAN DIEGO BAY--DISSOLVED COPPER	Amendment									
NOVEMBER 10, 2004 RB MEETING										
AT RB OFFICE										
NATIONAL STEEL AND SHIPBUILDING CO.	Adoption: CAO	NA	NA	NA	0%	0%	November 10, 2004	No		Carlisle
SAN DIEGO BAY SEDIMENT CLEANUP										
SOUTHWEST MARINE SAN DIEGO BAY	Adoption: CAO	NA	NA	NA	0%	0%	November 10, 2004	No		Carlisle
SEDIMENT CLEANUP										
SAN ELIJO JOINT POWERS AUTHORITY	NPDES Permit	80%	100%	80%	0%	0%	November 10, 2004	TBD	NPDES Workplan FY 2004-05	Kelley
SAN ELIJO WPCF	Renewal									
CITY OF ESCONDIDO HALE AVE. RESOURCE	NPDES Permit	80%	100%	80%	0%	0%	November 10, 2004	TBD	NPDES Workplan FY 2004-05	Kelley
RECOVERY FACILITY	Renewal									
UNIV. OF CALIFORNIA SCRIPPS INSTITUTION	NPDES Permit	0%	100%	80%	0%	0%	November 10, 2004	TBD	NPDES Workplan FY 2004-05	Phillips
OF OCEANOGRAPHY	Renewal									

SIGNIFICANT NPDES
PERMITS, WDRS, AND RB ACTIONS

6/4/04 12:14 PM

DATE OF REPORT **JUNE 10, 2004**										
NAME OF PERMIT/WDR/RB ACTION	**ACTION TYPE**	**APPLICATION COMPLETE**	**DISCH./RWQ LIMITS KNOWN**	**Monitoring Req'tments and Plan**	**COMPL DRAFT**	**PUBLIC REV. & COMMENT**	**BOARD HEARING & ADOPTION**	**Consent Calendar Item**	**COMMENTS**	**Staff**
MISSION VALLEY TERMINALS ADDENDUM TO CAO NO. 92-01	Hearing: CAO	NA	25%	10%	0%	0%	November 10, 2004	TBD		Dorsey
DECEMBER 10, 2004 RB MEETING										
AT RB OFFICE										
GREGORY CANYON LANDFILL NORTH SAN DIEGO COUNTY	New WDRs	90%	10%	5%	0%	0%	December 8, 2004	No		Tamaki
PENDING / UNSCHEDULED ACTIONS										
TOTAL MAX.DAILY LOAD--RAINBOW CREEK POLLUTANT--NUTRIENTS	Cont. Hearing Basin Plan Amd.	NA	100%	100%	80%	50%				Carlisle
US BORDER PATROL BORDER INFRASTUCTURE SYSTEM FENCE PROJECT	Resolution: 401 Certification	NA	NA	NA	0%	0%				Baczkowski
US BORDER PATROL FENCE INFRASTRUCTURE SYSTEM FENCE PROJECT	Resolution: CEQA Approval	NA	NA	NA	0%	0%				Baczkowski
UNIVERSITY OF CALIF. SCRIPPS INSTITUTION OF OCEANOGRAPHY--2001 CALIF. OCEAN PLAN	Resolution: Ocean Plan Exception	100%	NA	NA	100%	50%				Knedlik
OTAY ANNEX SANITARY LAND FILL	WDR Revision	85%	20%	5%	0%	0%				McDaniel
ANZA SANITARY LANDFILL	WDR Revision	100%	15%	10%	0%	0%				Grove
GEN. WDRS / POST CLOSURE MAINTENANCE INACTIVE NON-HAZ. WASTE LANDFILLS	New WDRs	NA	100%	60%	30%	90%				Grove
GEN. WDRS / POST CLOSURE MAINTENANCE INACTIVE NON-HAZ. INSIGNIF. VOLUMES DECOMPOSABLE WASTES LANDFILLS	New WDRs	NA	100%	60%	30%	90%				Grove
IBWC INTERNATIONAL WASTEWATER TREATMENT PLANT AND SO.BAY OUTFALL	NPDES Permit Reissuance	100%	100%	100%	0%	0%			NPDES Workplan FY 2001-02	Hanson
IBWC INTERNATIONAL WASTEWATER TREATMENT PLANT AND SO.BAY OUTFALL	Cease and Desist Order Hearing	NA	NA	NA	0%	0%				Hanson
PROMENADE INC. PERMANENT DEWATERING DISHARGE TO MISSION BAY	ACL Order	NA	NA	NA	100%	0%				Stewart
MISSION VALLEY TERMINALS --SHELL OIL PETITION FOR SEPARATE CAO	Hearing: CAO	NA	NA	NA	0%	0%				Dorsey

SANITARY SEWER OVERFLOW STATISTICS (Updated through May 31, 2004)

	SYSTEM SIZE[B]		NO. OF SEWAGE SPILLS [LISTED BY FISCAL YEAR (FY) - JULY 1 THROUGH JUNE 30]				SPILLS PER 100 MILES (LISTED BY FY)				SPILL VOLUME 2003-04[A]	
SEWAGE COLLECTION AGENCY	**Miles**	**MGD**	**00-01**	**01-02**	**02-03**	**03-04[A]**	**00-01**	**01-02**	**02-03**	**03-04[A]**	**GAL**	**GAL/MG[D]**
ORANGE COUNTY:												
EL TORO WD	55	2.2	0	3	1	3	0.0	5.5	1.8	5.5	1,468	2.0
EMERALD BAY SERVICE DISTRICT	6	0.09	1	0	0	0	16.7	0.0	0.0	0.0	0	0.0
IRVINE RANCH WD	36	2.0	1	0	0	0	2.8	0.0	0.0	0.0	0	0.0
LAGUNA BEACH, CITY OF	95	2.4	24	10	27	9	25.3	10.5	28.4	9.5	678	0.9
LOS ALISOS WD *(absorbed by Irvine Ranch WD, January 2001)*						0						
MOULTON NIGUEL WD	530	13.0	13	2	1	2	2.5	0.4	0.2	0.4	1,900	0.4
SAN CLEMENTE, CITY OF	179	4.5	9	6	7	4	5.0	3.3	3.9	2.2	17,676	11.7
SAN JUAN CAPISTRANO, CITY OF	100	3.4	1	0	0	0	1.0	0.0	0.0	0.0	0	0.0
SANTA MARGARITA WD	546	10.7	11	12	4	6	2.0	2.2	0.7	1.1	3,945	1.1
SOUTH COAST CWD	132	4.0	12	5	8	8	9.1	3.8	6.1	6.1	22,288	16.7
TRABUCO CANYON WD	43	0.72	0	0	0	1	0.0	0.0	0.0	2.3	5	0.0
RIVERSIDE COUNTY:						0						
EASTERN MWD	446	10.0	6	1	3	7	1.3	0.2	0.7	1.6	25,265	7.5
ELSINORE VALLEY MWD	80	2.0	1	0	0	1	1.3	0.0	0.0	1.3	3,600	5.3
MURRIETA MWD	25	0.52	*(included with Eastern MWD)*			1	*(included with Eastern MWD)*			4.0	100	0.6
RANCHO CA WD	71	2.9	0	2	0	1	0.0	2.8	0.0	1.4	700	0.7
SAN DIEGO COUNTY:						0						
BUENA SANITARY DISTRICT	84	1.9	0	0	2	1	0.0	0.0	2.4	1.2	250	0.4
CARLSBAD MWD	214	7.2	12	15	6	8	5.6	7.0	2.8	3.7	378	0.2
CHULA VISTA, CITY OF	400	16.0	7	6	3	6	1.8	1.5	0.8	1.5	3,620	0.7
CORONADO, CITY OF	53	3.8	11	5	2	2	20.8	9.4	3.8	3.8	105	0.1
DEL MAR, CITY OF	30	1.1	2	2	7	1	6.7	6.7	23.4	3.3	32	0.1
EL CAJON, CITY OF	198	9.1	3	2	3	0	1.5	1.0	1.5	0.0	0	0.0
ENCINITAS, CITY OF	118	4.1	4	2	6	2	3.4	1.7	5.1	1.7	1,005	0.7
ESCONDIDO, CITY OF	350	10.8	10	14	3	2	2.9	4.0	0.9	0.6	270	0.1
FAIRBANKS RANCH COMM SERV DIST	15	0.21	0	0	0	1	0.0	0.0	0.0	6.6	0	0.0
FALLBROOK PUBLIC UTILITY DIST[C]	72	2.0	27	17	22	7	37.5	23.6	30.6	9.7	7,660	11.4
IMPERIAL BEACH, CITY OF	84	2.2	9	1	14	2	10.7	1.2	16.7	2.4	223	0.3
LA MESA, CITY OF	155	5.8	3	12	3	3	1.9	7.7	1.9	1.9	1,000	0.5
LEMON GROVE, CITY OF	69	2.4	3	9	4	3	4.3	13.0	5.8	4.3	1,015	1.2

ATTACHMENT B-1

SANITARY SEWER OVERFLOW STATISTICS (Updated through May 31, 2004)

	SYSTEM SIZE[B]		NO. OF SEWAGE SPILLS [LISTED BY FISCAL YEAR (FY) - JULY 1 THROUGH JUNE 30]				SPILLS PER 100 MILES (LISTED BY FY)				SPILL VOLUME 2003-04[A]	
SEWAGE COLLECTION AGENCY	Miles	MGD	00-01	01-02	02-03	03-04[A]	00-01	01-02	02-03	03-04[A]	GAL	GAL/MG[D]
SAN DIEGO COUNTY *(continued)*:						0						
LEUCADIA CWD	185	4.2	5	5	6	1	2.7	2.7	3.2	0.5	50	0.0
NATIONAL CITY, CITY OF	97	5.1	0	0	1	2	0.0	0.0	1.0	2.1	3,300	1.9
OCEANSIDE,CITY OF,WTR UTIL DEP	446	13.0	19	17	23	22	4.3	3.8	5.2	4.9	1,962,741	449.3
OLIVENHAIN MWD	16	0.39	1	1	2	0	6.3	6.3	12.5	0.0	0	0.0
OTAY MWD	86	1.4	0	0	3	1	0.0	0.0	3.5	1.2	250	0.5
PADRE DAM MWD	150	5.1	1	4	3	2	0.7	2.7	2.0	1.3	74,000	43.2
PAUMA VALLEY COMM SERVICE DIS	8	0.65	0	0	0	0	0.0	0.0	0.0	0.0	0	0.0
POWAY, CITY OF	170	4.0	6	1	5	3	3.5	0.6	2.9	1.8	1,200	0.9
RAINBOW MWD	54	0.74	3	2	2	2	5.5	3.7	3.7	3.7	3,000	12.1
RAMONA MWD	83	1.3	3	5	2	1	3.6	6.0	2.4	1.2	3,000	6.9
RANCHO SANTA FE COMM SERV DIST	52	0.44	1	1	1	0	1.9	1.9	1.9	0.0	0	0.0
SAN DIEGO CO, PUBLIC WORKS	380	11.0	1	4	11	2	0.3	1.1	2.9	0.5	4,600	1.2
SAN DIEGO, CITY OF, MWWD	2,894	170	316	226	193	107	10.9	7.8	6.7	3.7	5,820,857	101.8
SOLANA BEACH, CITY OF	52	1.2	3	2	1	5	5.8	3.8	1.9	9.6	1,298	3.2
USMC BASE, CAMP PENDLETON	194	3.1	35	18	23	10	18.1	9.3	11.9	5.2	99,140	96.7
US NAVY	123	4.0	26	24	12	13	21.2	19.5	9.8	10.6	2,071	1.5
VALLECITOS WD	202	6.1	4	4	5	4	2.0	2.0	2.5	2.0	625	0.3
VALLEY CENTER MWD	48	0.32	0	0	3	1	0.0	0.0	6.3	2.1	26,650	247.9
VISTA, CITY OF	198	6.5	5	4	4	8	2.5	2.0	2.0	4.0	21,851	10.1
WHISPERING PALMS COMM SERV DIS	17	0.26	0	1	1	0	0.0	5.8	5.8	0.0	0	0.0
REGION 9 TOTAL	9640	364	599	445	427	265					8,117,816	
AVERAGE [1]							6.2	4.6	4.4	2.7		22
STANDARD DEVIATION [2]							7.9	5.0	7.0	2.8		76
MEDIAN [3]							2.6	2.4	2.4	1.9		1

[A] Includes available preliminary data for January - May 2004 and may not include all spills less than 1,000 gallons that did not enter surface waters or storm drains during this period.

[B] As of June 2003.

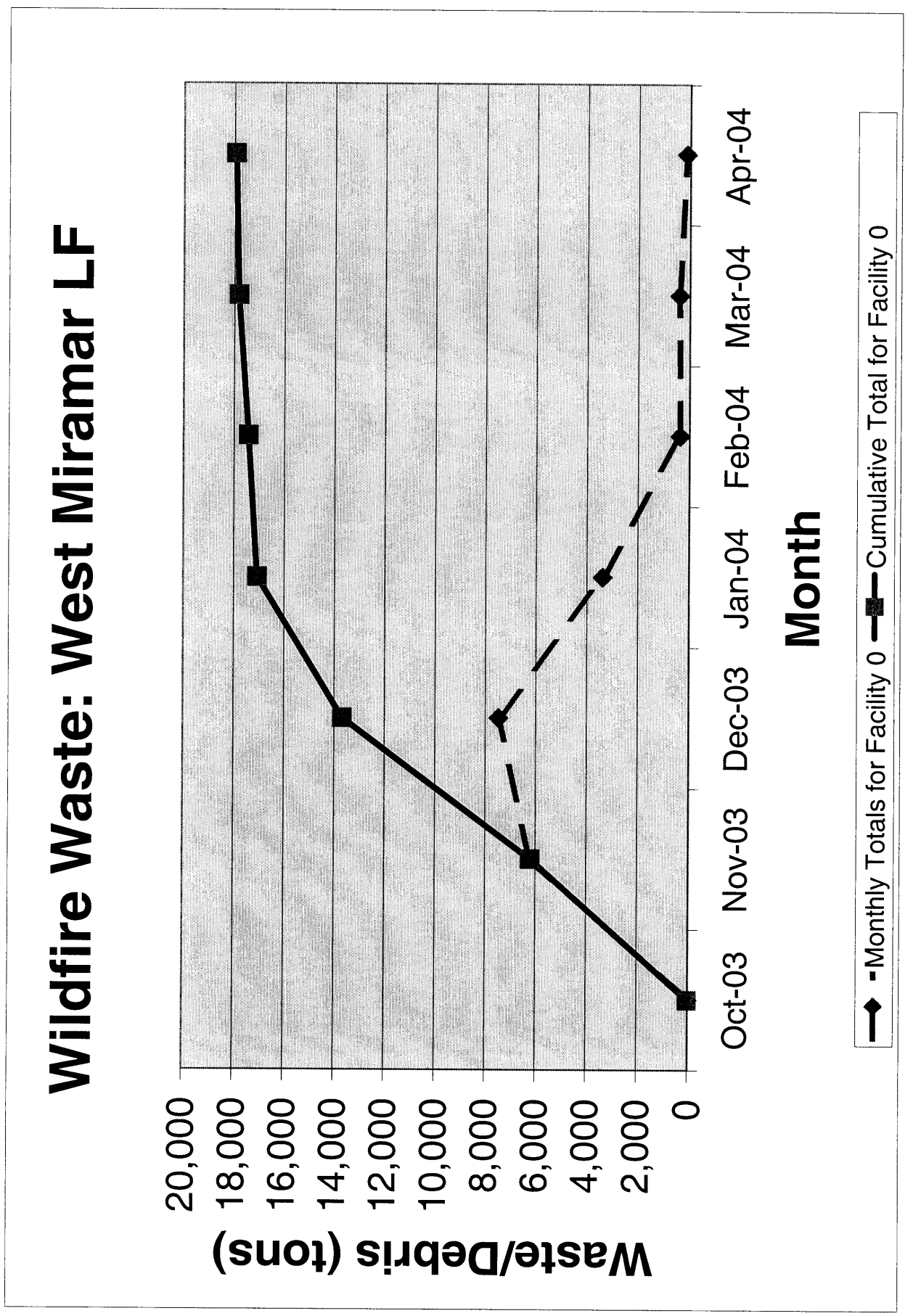
[C] Does not include 11 SSOs in 2000-2001 which occurred from private property but are the reponsibility of the Fallbrook PUD according to its own existing policies at the time.

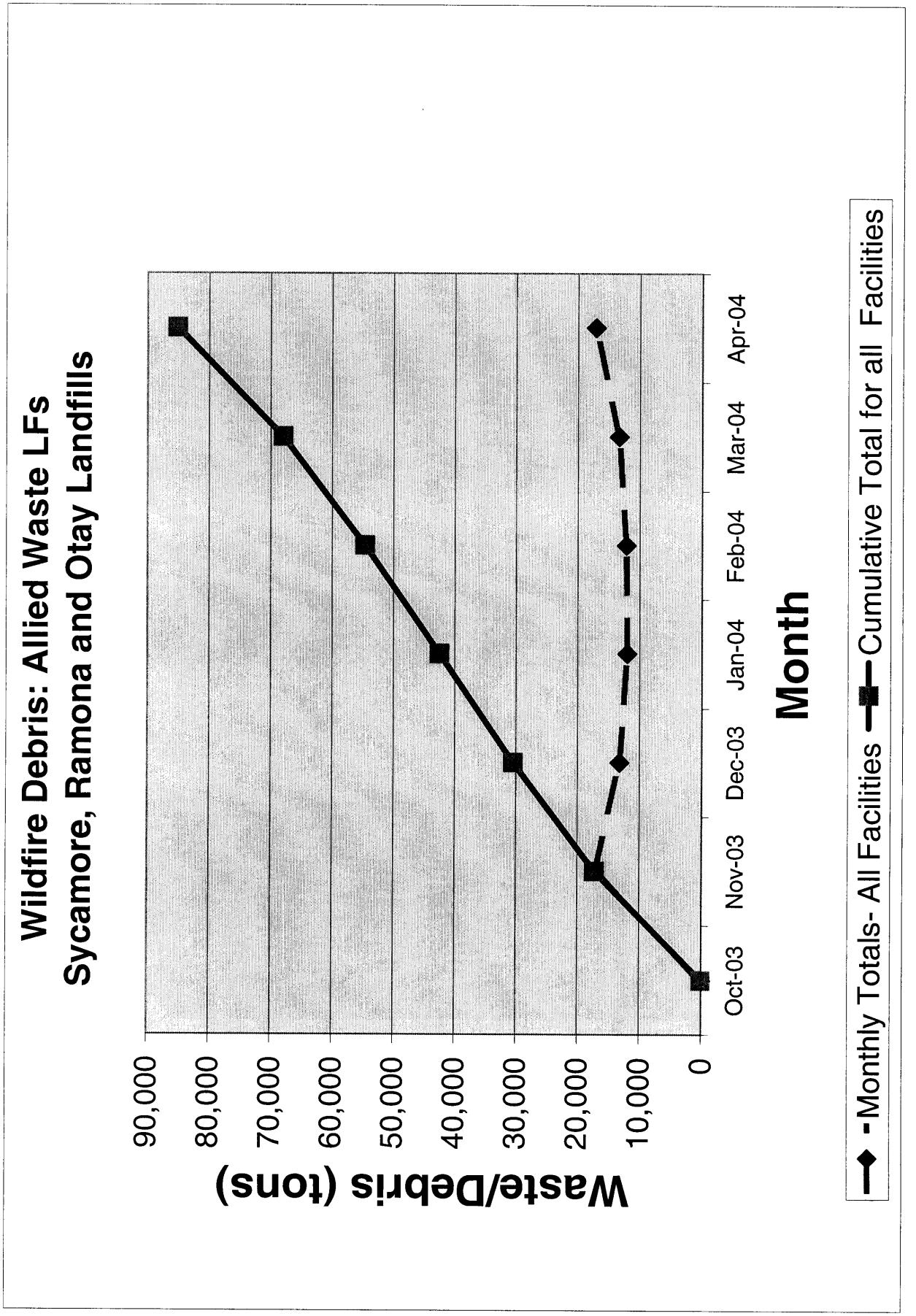
[D] Volume of spills for the period in gallons divided by the amount conveyed for the period in million gallons

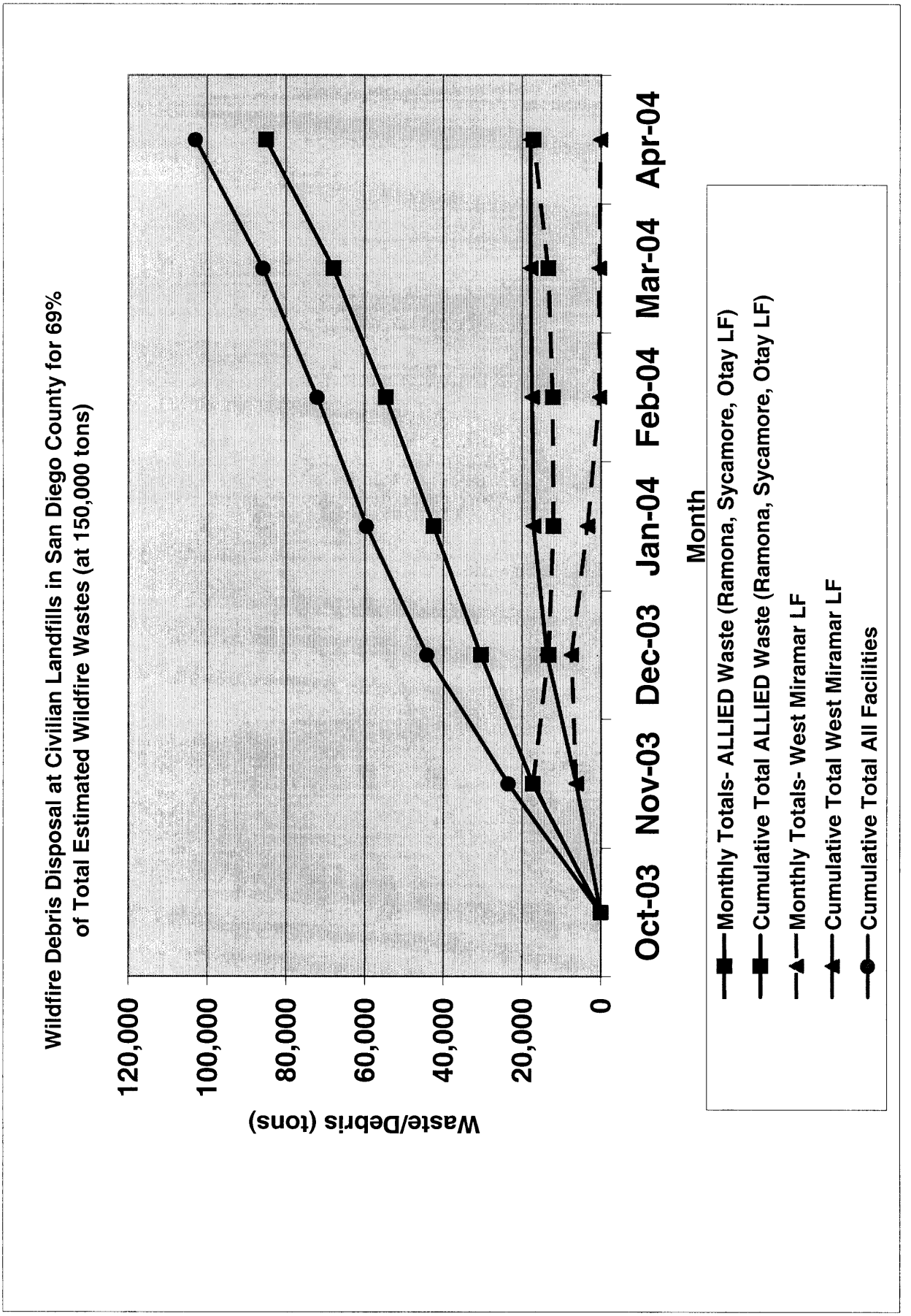
[1] The average is the sum of all values divided by the number of values.

[2] In a normally distributed set of values, 68% of the values are within one standard deviation either above or below the average value.

[3] The median is the middle value in a set; half the values are above the median, and half are below the median.


Wildfire Waste: West Miramar LF
Waste/Debris (tons)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Oct-03
Nov-03
Dec-03
Jan-04
Feb-04
Mar-04
Apr-04
Month
Monthly Totals for Facility 0
Cumulative Total for Facility 0


Wildfire Debris: Allied Waste LFs
Sycamore, Ramona and Otay Landfills
Waste/Debris (tons)
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Oct-03
Nov-03
Dec-03
Jan-04
Feb-04
Mar-04
Apr-04
Month
Monthly Totals- All Facilities
Cumulative Total for all Facilities


Wildfire Debris Disposal at Civilian Landfills in San Diego County for 69%
of Total Estimated Wildfire Wastes (at 150,000 tons)
Waste/Debris (tons)
120,000
100,000
80,000
60,000
40,000
20,000
0
Oct-03
Nov-03
Dec-03
Jan-04
Feb-04
Mar-04
Apr-04
Month
Monthly Totals- ALLIED Waste (Ramona, Sycamore, Otay LF)
Cumulative Total ALLIED Waste (Ramona, Sycamore, Otay LF)
Monthly Totals- West Miramar LF
Cumulative Total West Miramar LF
Cumulative Total All Facilities

ATTACHMENT B-11

County of San Diego

GARY W. ERBECK
DIRECTOR

SOLID WASTE LOCAL ENFORCEMENT AGENCY
9325 HAZARD WAY SAN DIEGO, CA 92123
(858) 694-2888 FAX (858) 495-5004
1-800-253-9933
www.sdcdeh.org

RICHARD HAAS
ASSISTANT DIRECTOR

May 13, 2004

OFFICIAL NOTICE

James D. Killiane
P.O. Box 6
Julian, CA 92036

SOLID WASTE DISPOSAL SITE AT TWIN OAK ROAD, JULIAN CA (APN 293-082-43)

Dear Mr. Killiane,

The County of San Diego, Department of Environmental Health, Solid Waste Local Enforcement Agency (LEA) regulates solid waste disposal within the unincorporated area of San Diego County. We have gathered evidence that after the October wildfires in San Diego County you collected fees to allow fire debris to be dumped on your property located at Clear Creek and Twin Oak Road in the Harrison Park area of Julian. We also have photographs and statements from witnesses that establish that you buried these wastes on your property.

Fire debris from burnt houses is Municipal Solid Waste and thus, burying these wastes without a facility permit violates California State law. Burying fire debris in this manner also constitutes a public nuisance and threatens the water quality in your community. We have referred this matter to the California Regional Water Quality Control Board – San Diego Region (RWQCB) as a possible violation of the waste discharge prohibitions in the RWQCB Basin Plan (1994) and/or other State regulatory requirements, because we have reason to believe that you buried fire debris in the Clear Creek watercourse.

As the owner of this property, you are in violation of the California Public Resources Code (PRC) Division 30, section 44002 and you are subject to civil penalties of up to $5,000 per day. You are ordered to CEASE and DESIST operating what we have determined is an illegal landfill. If you allow any more dumping or burying waste on this property you will violate the cease and desist order and state law provides that you can be liable for additional penalties of up to $5,000 a day.

Because the wastes that you accepted and buried on your property pose a threat to public health and safety and the environment we are required by law to give you direction on how to eliminate the threat you have created. The LEA directs you to take the following actions to remedy the situation:

1. Excavate the buried solid waste (fire related debris) previously buried at the site,

2. Arrange for temporary waste bins or a waste transport vehicle to be available during the process of excavating the solid wastes (fire related debris) from the site,

3. Ensure that all the solid waste (fire related debris) is transported and properly disposed of all solid waste (fire related debris) at a properly permitted class III - municipal solid waste landfill such as the Sycamore or Otay Landfills. In other words, you have to dig up all of the fire debris you buried, remove it and transport it to a sanitary landfill.

4. Provide the LEA with proof that you completely removed the previously buried fire related debris and properly disposed of it in compliance with any applicable Federal, State and local requirements.

The fire debris likely contains lead and other metals. While you are excavating your property to remove the buried waste, you must protect workers and residents in the area from the dust and other debris that the excavation will likely cause. Therefore, before you begin excavation you must submit a written plan for our review that shows how you will excavate and remove the waste safely.

You must promptly act to correct the illegal condition on your property. You may be held liable for civil penalties of up to $10,000 a day until waste that was illegally dumped and buried is removed.

The LEA wishes to resolve this case in a timely manner, with your cooperation. We are requiring you to submit your written plan by June 10, 2004 and have the work completed by June 30, 2004. The RWQCB will likely want to review your plans as well. You should contact John Odermatt, RWQCB at (858) 637-5595 for information as to their requirements.

If you fail to act we have no choice other than to file an enforcement action against you. If you refuse to cooperate we will obtain a court order to abate the buried wastes. You will responsible for the costs of removing and disposing of the wastes as well as be subject to the civil penalties as noted above. Therefore, it is in your best interest to cooperate immediately.

If you wish to discuss this matter or have any questions about this notice please contact me at (858) 694-3595 or Kerry McNeill at (858) 694-2629.

Sincerely,

JACK MILLER, Chief
Local Enforcement Agency
JM/km

Cc: John Odermatt, Regional Water Quality Control Board
Rodney Lorang, County Counsel
Eliot Alazraki, County Counsel
Kerry McNeill, LEA

5/19/04

ATTACHMENT B-12a

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

2004 MAY 19 P 1:20

DICK MURPHY
MAYOR

May 17, 2004

Mr. John Robertus, Executive Officer
Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Re: Mission Valley Terminal

Dear Mr. Robertus:

I have been informed that the Regional Water Quality Control Board (RWQCB) will soon consider issuing a clean-up and abatement order to Kinder-Morgan Energy Partners to remediate the contamination it has caused at the site and to restore the site and the ground waters beneath it to a useable state. The purpose of this letter is to request that you set the RWQCB hearing on this matter as soon as possible – in June, 2004, if at all feasible, but no later than August, 2004.

Various plans for the utilization of the valuable public resources at the Qualcomm site are being considered. The City needs and appreciates the RWQCB's assistance in ensuring that the site is cleaned-up and remediated in a timely manner.

Thank you for your consideration of this request.

Sincerely yours,

Dick Murphy
Mayor
City of San Diego

DM:ts

ATTACHMENT B-126

THE CITY OF SAN DIEGO

May 14, 2004

2004 MAY 19 P 1:20
SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

Mr. John Robertus
Executive Officer
Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Re: Mission Valley Terminal, CAO 92-01; Follow-Up to RWQCB Public Workshop 5/3/04 and request for June 2004 RWQCB Hearing

Dear Mr. Robertus:

Thank you for the opportunity to participate in the public workshop held May 3, 2004, to gather and present information regarding the contamination and remediation at the Qualcomm Stadium property and the City's plans for the Mission Valley aquifer. As the City emphasized through its written submittal and various presenters at that forum, the release at the Mission Valley Terminal [MVT] seriously impacts valuable public resources, both groundwater and real property resources. The presence of contamination impedes both the City's ability to develop the groundwater supply in Mission Valley and to redevelop the Qualcomm Stadium property. As you heard at the workshop, the City has long-standing plans to develop the aquifer. Moreover, given its age and location, it is only a matter of time before the Qualcomm Stadium property is redeveloped.

We understand the next step is for the Regional Water Quality Control Board [Regional Board] to consider the information presented at the workshop, as well as other information before it, and issue a new order to the discharger, Kinder Morgan Energy Partners [Kinder Morgan]. The City urges the Regional Board to adopt a new order consistent with the City's proposed order which requires significant progress on clean-up by 2005, with MCLs for fuel components in the groundwater met by September 2007. Meeting those goals requires Kinder Morgan to undertake and complete certain activities by this coming September. So, time is of the essence.

We have been advised that August 2004 is the earliest that this matter can be calendared for a public hearing before the Regional Board. We can certainly appreciate that the resources of board staff are being stretched under the current funding crisis and understand the significant level of resources already devoted to this matter. However, given the importance of this site to the citizens of San Diego, we urge the matter be set for hearing in June 2004.

Utilities General Manager
202 C Street, MS 9A • San Diego, CA 92101-3869
Tel (619) 236-6750 Fax (619) 236-6751

Further, as you heard at the workshop, the City does not consider wellhead treatment to be a viable option for this site. In our opinion, this "end of pipe solution" is not a solution. The public deserves to have its groundwater cleaned-up at the source, and there is no doubt that Kinder Morgan has the resources to do just that right now.

Finally, the City is presently reviewing Kinder Morgan's evaluation of alternative remediation technologies received shortly before the workshop. We expect to provide written comments to that evaluation within two-to-three weeks. Given our evaluation to date, however, we are confident that the City's goals are technologically feasible.

We believe that, working together, we can expeditiously achieve our mutual goals for the benefit of our community. If there is anything the City can do to help the Regional Board expedite this process, please let us know.

Sincerely,

Richard Mendes
Deputy City Manager

cc: John Odermatt, Senior Engineering Geologist, RWQCB
Scott Kilkenny, V.P. Env., Health and Safety Dept., Kinder Morgan
Scott E. Martin, R.G., Levine–Fricke, Consultants for Kinder Morgan
Marc Greenberg, Esq., Attorney for Shell/Texaco/Equilon

California Regional Water Quality Control Board
San Diego Region

Terry Tamminen
Secretary for Environmental Protection

9174 Sky Park Court, Suite 100, San Diego, California 92123-4340
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http://www.swrcb.ca.gov/rwqcb9

Arnold Schwarzenegger
Governor

ATTACHMENT B-15

May 28, 2004

CERTIFIED MAIL –RECEIPT REQUESTED
7004 0750 0001 2691 3461

Mr. Richard Chase
c/o Gregory Canyon Ltd.
991-C-404 Lomas Santa Fe Drive
Solana Beach, California 92075

In reply refer to:
LD:06-0024.02:tamac

Dear Mr. Chase:

RE: JOINT TECHNICAL DOCUMENT FOR GREGORY CANYON LANDFILL DATED APRIL 2004

The Joint Technical Document ("JTD") for proposed discharge of municipal solid waste at the proposed Gregory Canyon Landfill, submitted on April 9, 2004, remains incomplete because it fails to include all of the supporting documentation required by State Water Resources Control Board regulations governing discharges of solid waste to landfills. The applicable requirements governing our completeness determinations for a Report of Waste Discharge (RWD) may be found in California Code of Regulations Title 27, Section 21585(a)(1) and CCR Title 23, Section 2206.

Despite submissions made beginning on April 9, 2004 of revised text, tables, figures and appendices to be inserted into the JTD (in response to Regional Board correspondence dated March 5, 2004), the following essential components of a complete RWD/JTD are missing:

1) documentation for installation of additional ground water monitoring wells;

2) results of aquifer pump tests of the proposed ground water monitoring network; and

3) an acceptable demonstration that the proposed monitoring network will be able to provide the earliest detection of a release of waste constituents to ground water from the proposed solid waste management unit at Gregory Canyon.

The Regional Board will not be able to develop appropriate waste discharge requirements (WDRs) for proposed discharges of municipal solid waste at the Gregory Canyon landfill site without this information. Notwithstanding the determination made in our letter dated May 7,

2004; the Regional Board hereby finds that **your JTD (including the revisions dated April 8, 2004) is incomplete**.

The Regional Board recognizes that installation of additional wells and completion of aquifer pumping tests for the proposed ground water monitoring network will take approximately three (3) months according to the supplemental documentation submitted on April 9, 2004. Pursuant to Water Code Section 13264, proposed discharges of waste are prohibited for up to 140 after submission of a complete RWD (included in the Joint Technical Document for discharges of municipal solid waste). The Regional Board uses the 140-day period to develop tentative WDRs for your proposed project, and to provide the necessary 45-day period for public review and comment on the tentative requirements and the technical documentation that the Regional Board will rely on in regulating the discharge.

We would like to make a copy of the final JTD available to the public on our website to promote informed public participation in the Regional Board's regulatory process. Therefore, we request that a copy of the entire final JTD be submitted to us on compact discs in "pdf" format. Please provide the Regional Board with a complete copy of the final JTD in the requested electronic format within 60 days of your receipt of this letter. If you have any questions regarding the above information, please contact myself at 858-637-5595 or via email at oderj@rb9.swrcb.ca.gov or Ms. Carol Tamaki at (858) 467 – 2982 or via e-mail at tamac@rb9.swrcb.ca.gov.

Sincerely,

JOHN H.ROBERTUS
Executive Officer

JHR:jwr:jro

cc: Interested parties list (Attached)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

Quarterly Progress Report to the State Water Resources Control Board Pursuant to SWRCB Resolution No. 2001-309

Caulerpa taxifolia Eradication and Prevention Activities January-March 2004

I. Eradication Activities

During this reporting period, no surveys were conducted in Agua Hedionda Lagoon (AHL). The Winter 2003-2004 survey was completed in Huntington Harbour (HH). No *Caulerpa taxifolia* was found. No *C. taxifolia* has been detected in AHL since September 2002 or in HH since November 2002.

Efficacy studies conducted in Huntington Harbour this quarter resulted in a success rate of 80%. The rates of success at finding artificial *C. taxifolia* during efficacy studies in the past have ranged from 40% to 100%. The Southern California *Caulerpa* Action Team (SCCAT) is continuing to evaluate the results of the efficacy studies to determine when these two systems can be declared free of *C. taxifolia*. It is vital to continue surveillance efforts throughout California and other coastal waters to ensure that *C. taxifolia* is eradicated at AHL and HH and to determine whether there are other infestation sites.

At the request of NOAA/NMFS, SCCAT provided comments on a draft news release, the final version of which was made public on February 19, 2004 (attached). This news release resulted in the publication of two articles in the North County Times and another article in the Orange County Register (all attached).

SCCAT continued to develop a diver certification program to certify divers in *Caulerpa* identification. The program was broadened to certify divers to identify all *Caulerpa* species banned in California by AB 1334. National Oceanic and Atmospheric Administration (NOAA) is scheduled to host a Survey Certification Class on June 16, 2004 and California Department of Fish and Game (CDFG) has scheduled another class for July 14, 2004.

II. Prevention Activities

Work to finalize a scope of work for an outreach and education program, which will be funded through grants obtained by the Agua Hedionda Lagoon Foundation (AHLF) was held in abeyance during the reporting period. Continuation of outreach efforts is critical to prevention and detection of future infestations.

III. Research Activities

Merkel & Associates (the eradication contractor) drafted a "Tarp Removal and Biological Assessment Study Plan" designed to assess the biological and physical characteristics associated with the tarps used to contain and treat *C. taxifolia*. The plan was circulated to the SCCAT Technical Committee for review and approval. SCCAT agreed on the

sampling plan proposed and gave consent to initiate sampling in accordance with the plan.

IV. Funding

A large portion of the funding for eradication efforts at AHL and HH has been provided by Cleanup and Abatement Account (C/A) grants awarded by the SWRCB. SARWQCB continued to work with SWRCB and Merkel & Associates to ensure appropriate invoicing and timely payment from C/A grant #181(A) to SARWQCB. In consideration of the projected need for continued surveillance in HH, SARWQCB staff requested an extension for C/A grant #181(A). Likewise, SDRWQCB continued to work with SWRCB, the City of Carlsbad, and Merkel & Associates to ensure appropriate invoicing and timely payment from C/A grant #195. During this quarter, the final two invoices (for work conducted in October-December 2003) were submitted for payment and close-out of C/A grant #195.

In February 2004, SWRCB approved funding for the Proposition 13 grant proposal submitted by CDFG for resumption of surveillance in "high risk" areas where infestations could be present. On February 17, 2004 SCCAT participants (including SARWQCB and SDRWQCB) met to discuss how this, and other available grant funds, should be spent.

SDRWQCB continued to work with AHLF and the State Coastal Conservancy (SCC) to develop a work program that must be completed to enable use of $1.3 million in grant funding obtained by AHLF from the SCC through the Southern California Wetlands Recovery Project to continue work related to *C. taxifolia*. SDRWQCB has also been working with AHLF to prepare a contract for a $500,000 Clean Water Act section 319(h) grant to continue *C. taxifolia* eradication work.

V. Oversight

The San Diego Regional Water Quality Control Board (SDRWQCB) and Santa Ana Regional Water Quality Control Board (SARWQCB) continued to participate in the SCCAT. SDRWQCB continued to chair and prepare agendas and minutes for SCCAT meetings. The primary responsibility of SCCAT is to oversee eradication efforts and provide guidance on related work. During the reporting period, SCCAT meetings were held on January 23 and March 23, 2004 in San Diego.

In March 2004, the City of Carlsbad City Council approved a 1-year extension to the AHL Interim Management Plan (IMP). The IMP provides for prohibition of certain recreational activities and restrictions on other recreational activities in order to facilitate *C. taxifolia* eradication work in AHL.

On February 25-26, 2004, SCCAT participants attended a "*Caulerpa* Working Group" meeting organized by the US Fish and Wildlife Service to assist them in developing a national management plan for invasive *Caulerpa* species in US waters.

In February 2004, AB 2072 and AB 2073 were introduced. Both AB 2072 and AB 2073 have to do with providing for restriction or prohibition of recreational vessel activity if that activity would hinder or jeopardize efforts to control or eradicate *C. taxifolia*. Existing law, created by AB 1059, provides for such restrictions or prohibitions in Agua

Hedionda Lagoon indefinitely. AB 2072 would provide for such restrictions and prohibitions only in Agua Hedionda Lagoon and only for one year after declaration of eradication of *C. taxifolia* there. Existing law does not provide for such restrictions or prohibitions in waters of the state in general, since that provision of AB 1059 was automatically repealed on January 1, 2004. AB 2073 would provide for such restrictions and prohibitions in waters of the state in general until January 2010. As of March 31, both bills were in the Assembly Committee on Water, Parks, and Wildlife.

News Release

For Immediate Release **February 19, 2004**

Contact: **Bob Hoffman - 562.508.9582 / NOAA Fisheries**
Bill Paznokas - 858.467.4218 / California Department of Fish and Game
Lars Anderson - 530.752.6260 / U.S. Department of Agriculture

Caulerpa Taxifolia Update – Group "cautiously optimistic" of eradication efforts

The invasive seaweed Caulerpa taxifolia has not been detected from the Agua Hedionda Lagoon site since September 2002 or within the Huntington Harbor site since November 2002 and members of the Southern California Caulerpa Action Team (SCCAT) are cautiously optimistic it has been contained and controlled within the two known infestation sites in Southern California.

Caulerpa taxifolia, also referred to as "killer algae" because of its ability to devastate and overwhelm underwater ecosystems, was first discovered at the two sites in 2000. The seaweed was popular in home aquariums and was likely introduced accidentally into California's waters several years ago before legislation in 2001 made it illegal to sell, possess, transfer or release alive nine species of Caulerpa taxifolia in California. In other parts of the world, especially the Mediterranean Sea, Caulerpa taxifolia has proven to be highly invasive with the ability to quickly and permanently displace native marine plants and animals.

"The success to date is a credit to the public/private partnership that was formed to address this issue," said Ryan Broddrick, Director of the California Department of Fish and Game. "Without the active participation of industry, private citizens and public agencies, the infestation could not have been controlled in such a timely and effective manner. If the Caulerpa had spread offshore, our marine resources could have been seriously damaged. Developing an effective early detection and rapid response capability will be the best way to combat the next invasive event in California."

The SCCAT continues to be concerned about eradication of the algae given the inherent difficulties in conducting system-wide detection surveys and cannot be 100 percent confident that this invasive species has been eliminated. However, if continued surveys do not detect *Caulerpa* through fall of 2004, the SCCAT expects to declare these two systems free of *Caulerpa*. Still, efforts to eliminate this, and similar invasive species, are not over. It is vital to continue surveillance efforts throughout California and other susceptible coastal waters to ensure that other infestation sites do not exist. Likewise, continued public outreach and education is essential to ensure there are no further introductions of this and other noxious invasive species.

-more-

The SCCAT Steering Committee consists of representatives from several state and federal agencies including the National Marine Fisheries Service (NOAA Fisheries), San Diego Regional Water Quality Control Board, Santa Ana Regional Water Quality Control Board, California Department of Fish and Game, and the U.S. Department of Agriculture.

The completion of this project would result in the first successful eradication of an invasive marine alga species. The approach of SCCAT is being viewed as an effective model for the eradication of invasive species.

Websites on Caulerpa Taxifolia

NOAA Fisheries Southwest Region
http://swr.nmfs.noaa.gov/hcd/caulerad.htm

UC Davis
http://www.ridnis.ucdavis.edu/Caulerpataxifolia.html

San Diego Regional Water Quality Control Board

http://www.caulerpa.cjb.net

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Monday, March

Last modified Tuesday, February 24, 2004 10:5

Scientists ask: Is killer-algae effort a victory?

By: TIM MAYER - Staff Writer

CARLSBAD ---- Scientists leading the effort to wipe out a dreaded noxious seaweed dubbed the "killer algae" said Tuesday they're cautiously optimistic they'll be able to declare victory at Agua Hedionda Lagoon and at Huntington Harbor in Orange County by the end of this year.

"I'm crossing my fingers," said Lars Anderson, a U.S. Department of Agriculture scientist who has specialized in invasive species for more than 30 years.

Anderson and biologist Bill Paznokas of the state's Department of Fish and Game said Tuesday that everything will depend on the outcome of lagoon-bottom surveys conducted this summer and fall.

The team of scientists who have been battling a "killer algae" outbreak in Agua Hedionda Lagoon may finally be ready to declare a cautious victory if no more of the stuff is found this fall.
Jamie Scott Lytle
<A HREF="http://www.nctimes.com/forms/photo_services/linko
des= Jamie Scott Lytle Team of scientists who have been battling "killer algae" outbreak in Agua Hedionda Lagoon may finally be ready to declare a cautious victory, if no more of the stuff is found this fall. ` "
target="new">Order a copy of this photo

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"The next surveys are going to tell the tale," Paznokas said. "If we don't find anything this summer or fall, then we' to declare eradication."

The discovery of the algae known as Caulerpa taxifolia in Agua Hedionda in June 1990 and a few months later at Huntington Harbor alarmed scientists up and down the state.

A tiny patch of the once-tropic, rapidly growing neon-green algae was found in the Mediterranean in 1984, and, lef untreated, has spread to cover more than 10,000 acres of sea floor and doubling every year. The algae earned its nickname because as it spreads it smothers rock reefs and sandy sea bottom, killing off vegetation and killing or c fish and all other aquatic life.

The algae was once a popular saltwater aquarium plant, and Anderson said he suspects both Agua Hedionda anc Huntington Harbor were infested by people dumping their aquarium tanks into the water.

At the Carlsbad lagoon and in Huntington Harbor, divers have been scouring the bottoms to find the plants, sprea over those found, and pumping chlorine bleach underneath.

The techniques seem to have worked, said Anderson.

No Caulerpa has regrown from core samples taken from treated sections of lagoon bottom even under ideal condi his laboratory. Lagoon areas uncovered have also not produced any new growths of algae.

And surveys by divers have found no Caulerpa in Agua Hedionda since September 2002 or at Huntington Harbor November 2002.

"Everything looks really good," Anderson said.

Anderson is a member of a team of scientists from the National Marine Fisheries Service, the San Diego and San regional water quality control boards, state Fish and Game, and the federal Agriculture Department coordinating tl extermination effort.

Even if victory is declared, scientists will continue to monitor the areas periodically, said Anderson and Paznokas, even a microscopic particle left undetected could spawn a new outbreak.

"With any eradication program you have to make sure you've done your job," Paznokas said.

"The caveat," Anderson said, "is that we still have to do some periodic monitoring. You can't just walk away compl not look back. But we will be well beyond the intense monitoring that we are doing now."

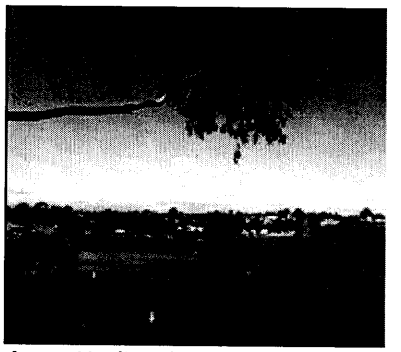
Anderson said the team is already working on a plan for surveillance of other high-risk areas in Southern Californi places with large populations and easy access to lagoons and the ocean ---- to try to make sure there are no more infestations.

"We don't want to miss something that's out there already and we just don't know it," he said.

Contact staff writer Tim Mayer at (760) 901-4043 or tmayer@nctimes.com.

Carlsbad battle against invader is praised as a model

By: TIM MAYER - Staff Writer



Agua Hedionda Lagoon
Jamie Scott Lytle
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CARLSBAD ---- The apparently successful effort to wipe out an invasive species of algae that many said could have doomed California fisheries is being credited to a combination of luck and a virtually unprecedented public-private partnership's lightning-fast response to the emergency.

The discovery of the noxious, invasive Caulerpa taxifolia in Agua Hedionda Lagoon in June 2000 alarmed scientists up and down the state and across the country. They said if left unchecked, it could spread to blanket reefs and kelp beds and choke harbors as far north as the Oregon border and south into Mexico.

The rapidly growing, neon green, single-cell organism had already earned its nickname ---- "killer algae" ---- in the Mediterranean, where a square yard of the algae spotted on the seafloor off of Monaco in 1984 has spread over n 50,000 acres. Scientists have said that the algae is doubling in area every year, and it's virtually unstoppable now.

Where it grows, death follows. Fish won't eat it, and as it spreads, it smothers everything from rock reefs to the sa bottom, killing off native vegetation and killing or driving off native fish and all other aquatic life.

And yet, last month, scientists announced that they are cautiously optimistic that by the end of this year, they will b declare the infestation in Agua Hedionda, as well as a later discovery at Huntington Harbor in Orange County, offi eradicated, provided summer and fall surveys continue to show no signs of the plant.

A world first

If so, it will mark the first time Caulerpa or any other invasive marine algae has ever been eradicated, said Bob Hc biologist and Southern California environmental coordinator for the National Marine Fisheries Service.

"The approach we took ... is a model for future eradication efforts," Hoffman said in a telephone interview last wee attending a workshop in Oakland with other scientists who are developing an emergency action plan for dealing w invasive species nationwide based on the eradication efforts at Agua Hedionda Lagoon.

A recent Cornell University study estimated the annual economic losses and efforts to control invading plants, ani insects at about $137 billion a year.

Luck played an early part in what happened at Agua Hedionda, where scientists say the plant was probably dump saltwater aquarium owner. The algae was once a popular aquarium plant.

Biologist and consultant Keith Merkel of Merkel and Associates said his divers under a contract with lagoon owner Power, which operates the Encina power plant, were checking out the lagoon bottom to see how well native eel gr growing.

On June 12, they spotted something that didn't belong there ---- an 11,000-square-foot glowing green, dense mas vegetation. Not knowing what it was, a diver took a sample to Merkel senior biologist Rachel Woodfield, who ident plant from the sample and then went underwater herself to take a look.

"I was freaked out about it," she said, estimating that the infestation probably was only about 2 years old. "It was h was absolutely staggered by its extent."

Power company credited

Merkel and Woodfield said they called Cabrillo Power company secretary David Lloyd, whose immediate respons take responsibility and sound the alarm.

"Cabrillo's response was not, 'Oh, my God, somebody has got to do something.' It was, 'Oh, my God, we've got to something,' " Merkel said.

Lloyd said that a few months earlier, he happened on a magazine article on Caulerpa and its impact in the Medite while in his dentist's waiting room.

"I was horrified (because) I knew exactly what would happen if it got into the reefs offshore," he said.

Cabrillo agreed to open its checkbook, to the tune now of about $500,000, to fund efforts by Merkel to find a soluti problem until a host of government agencies could be brought on board. To date, the eradication effort has cost al million, provided by Cabrillo and the government agencies.

"We pulled the fire alarm and proceeded to fight the fire until (government) agencies got here," Lloyd said.

With the alarm out, experts from federal, state and regional agencies gathered within a week in San Diego to form they call the Southern California Caulerpa Action Team, with representatives from the federal fisheries service, the Diego Regional Water Quality Control Board, the California Department of Fish and Game, and the U.S. Departm Agriculture.

"We knew we had a tiger by the tail," said biologist Lars Anderson of the federal Department of Agriculture. Ander: been an invasive species researcher for more than 30 years, and this "threat was huge."

Hoffman said responding to the potential disaster required use of "a different approach by all the agencies from th they normally do business."

"The normal cautious, deliberate approach was not going to work," Hoffman said. "We needed to move quickly, m decisions quickly. And I think the results speak for themselves. This is the way government is supposed to work."

Cooperation, speed

A 2001 report by the U.S. General Accounting Office to Congress was critical of the lack of rapid federal response growing threat of invasive species.

"A response within days may be needed to eradicate many newly detected invasive species," the report said. "Be invasive species do not respect jurisdictional boundaries, rapid response often requires cooperation among federa and local government agencies."

Hoffman said cooperation and speed has "been the key to this whole effort."

Within two weeks after that meeting of the agencies and three weeks after the algae's first discovery, divers were scene killing the algae using a technique developed by Woodfield during backyard experiments.

Divers spread tarps over infested areas of the lagoon bottom and pumped chlorine under the tarps to destroy the They continued to do that every time a new infestation was found. Now, surveying divers have not spotted any of

in the lagoon since September 2002 or at Huntington Harbor since November 2002.

Woodfield said no one she knows of had tried to use chlorine before. But frustrated by the fact that every traditiona herbicide she tried ---- even at extremely high dosages ---- did not work, she finally said, "Let's try bleach."

"So I just took some of my household bleach and had dramatic results," she said.

Merkel said: "There was no game plan, so we made it up as we went. There wasn't opposition to doing the right th was just unknown what was the right thing."

On a sad note, a key player in the effort never lived to see the results.

Greig Peters, a senior environmental specialist for the San Diego Regional Water Quality Control Board, died of ca age 55 on Nov. 8, 2001, at his home in La Jolla.

"(Peters) spent his entire career on water quality issues and saw the potential to lose everything he had worked fo spread of Caulerpa," Merkel said. "I wish Greig was here to see where we are."

Bill Paznokas, a biologist with state Fish and Game, said although the eradication "was a really tremendously grea everyone," the speed of the emergency response "is a tribute to Greig Peters."

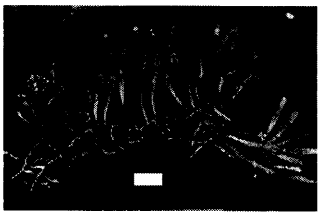
"He was instrumental in making this work," he said.

Contact staff writer Tim Mayer at (760) 901-4043 or tmayer@nctimes.com.

Monday, March 15, 2004

Weeding out a dangerous problem on ocean's floor

Campaign against 'killer algae' relies on sharp eyes, bleach.



TRAPPED: To stop the Caulerpa taxifolia, scientists sealed it with a plastic tarp on the ocean floor and put chlorine pucks used in swimming pools underneath.
COURTESY OF RACHEL WOODFIELD

MORE PHOTOS

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By PAT BRENNAN
The Orange County Register

The stuff has an evil, homicidal-sounding moniker - "killer algae" - that brings either derisive laughter or visions of science-fiction invasion.

But the name describes a real threat: Caulerpa taxifolia, an invasive form of algae that can snuff out marine ecosystems wherever it takes hold.

Biologists are cautiously celebrating the defeat of killer algae in Huntington Beach and in a San Diego County lagoon, the only places where it has been detected so far on the West Coast.

Even as regulators publicized the algae's likely demise, however, environmental officials from around the country were working on a plan to keep watch on the nation's coastlines and act quickly when the seaweed is spotted. A group of them met in Oakland last month.

Marine biologist Rachel Woodfield of Merkel & Associates Inc. in San Diego was the first to identify the Mediterranean seaweed in 2000 at the Agua Hedionda Lagoon.

"It was horrible," she said during a break in the Oakland meeting. "The extent of it was just incredible. If you plunged your arm into it, it would go up to your shoulder."

The discovery of the seaweed ruined Woodfield's weekend - and soon initiated a campaign by state and federal agencies to eliminate the pest.

Woodfield was working on an eel-grass restoration project in the lagoon when a colleague pulled up an odd-looking seaweed.

SCIENTIST ON THE LOOKOUT FOR SILENT INVADER

Rachel Ann Woodfield: 32, of Oceanside.
Marine biologist: Merkel and Associates, San Diego.
Bachelor's degree : University of California, Santa Barbara, 1995.
Woodfield has a strong interest in birds and fish, and conducts ecological restoration and monitoring projects.
She also travels regularly to the Mediterranean to learn more about Caulerpa taxifolia as well as other potentially invasive algae species.

Checking an old book - a Golden Guide owned by her parents - Woodfield identified it as Caulerpa taxifolia, the same stuff that had destroyed large swaths of marine habitat in the Mediterranean Sea.

The seaweed, outlawed in California in 2001, has long been popular with saltwater aquarium owners for exactly the same reasons it is such a pest: It grows rapidly on a variety of surfaces.

The seaweed takes over the same way weeds might in the backyard: by growing rapidly, often into thick mats, and displacing other species.

Eel grass, for instance, is the basis of a kind of miniature, underwater forest ecosystem on the Southern California coast. A number of commercially important species such as lobster, halibut and sand bass rely on it to serve as a nursery, where juvenile forms can feed and hide until they mature.

Wipe out the eel grass, and the fish disappear, too. And that's what Woodfield saw happening in Agua Hedionda.

"It was enormous and dense and excluded everything that used to be there," she said.

She surveyed and mapped the extent of the infestation, and found that the algae covered more than 10,000 square feet. That included a 100-foot- wide "mother patch."

She alerted her fellow biologists, as well as regulators, and, with guidance by the U.S. Department of Agriculture, began experimenting with ways to kill the algae - strands of it sat in buckets in her back yard, steeping in various herb icides to see what worked.

"I tested a whole bunch of them," she said. "I really had very little success. As a matter of fact, I had no success. In frustration I took some household bleach and tried it in varying strengths."

That did it. The chlorine in the bleach killed the algae.

Woodfield and her colleagues developed a plan to seal the algae inside plastic tarps on the sea floor, placing the bleach underneath. The tarps would prevent the chlorine from leaking into the marine environment and starve the algae of light and prevent it from sending out tendrils.

Meanwhile, nature delivered another bombshell: A second infestation was discovered, in Huntington Harbour. It was more sparse, and confined to two small, artificial lagoons. These were mostly separate from the harbor, although the algae had begun to invade the harbor as well.

The tarp treatment was applied there, but with people and homes so close by, Woodfield decided not to use liquid bleach, instead opting for the chlorine pucks typically found in swimming pools.

This month, the National Marine Fisheries Service announced that the algae invasion

apparently has been stopped. No new strands appeared at either site in a year.

"Till we've actually reached that second-year point where we haven't found it, we're not going to declare it gone," said Bob Hoffman, Southern California environmental coordinator for the National Marine Fisheries Service. Stamping out the algae cost about $3 million. Next on the list, Woodfield said, will be an effort to check up and down the Southern California coast, where it is most likely to grow.

She'll also keep watch on Huntington Harbour and Agua Hedionda to make sure there aren't any strays.

"This seaweed never ceases to surprise me," she said. "I would not be surprised if we never found it again. But I also would not be floored if another little plant popped up that was lying dormant in the sediment for two years."

CONTACT US: (714) 796-7865 or pbrennan@ocregister.com